C++ Programming

Step-by-Step

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C++ PROGRAMMING: STEP BY STEP

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22. BUBBLE SORT ALGORITHM

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Abstract

The bubble sort is the most popular sorting algorithm. Bubble sort algorithm is based on comparing one item in the list with the next one and swapping them if needed. This way the largest number settles to the bottom while the smaller ones bubble up. It is very important to avoid comparing the very last item in the list with a non-existent item. If no swapping is required while comparing all items in the list, the list is sorted and the sort operation may be stopped.

22.1 Introduction

The selection sort is an easy algorithm is unable to detect an already sorted list. Now think of a situation that a large list was entered in the sorted order. If selection sort is used, it would not be able to discover that the list was sorted to begin with; however the bubble sort can discover if a list is sorted. The program in Figure 22.1 is using bubble sort that again involves nested loop structure in a program to do sorting of numbers in ascending order.